

# Indiana Trauma Registry

## Statewide Quarter 4 Data Report

October 1, 2013 to December 31, 2013

5,839 Incidents

### 60 Total Hospitals Reporting

Trauma Centers:	9 facilities	54.3% of data
(Non-Trauma) Hospitals:	51 facilities	45.7% of data

For Quarter 4 2013, which spanned from October 1, 2013 to December 31, 2013, there were 5,839 incidents reported to the Indiana Trauma Registry at the Indiana State Department of Health. There were 60 hospitals that reported data, of which 9 were trauma centers and 51 were non-trauma centers. There were seven hospitals that either started to report again or were new to report during this quarter compared to the previous quarter, while one hospital dropped off from reporting this quarter from the previous quarter. A map of the state with the reporting hospitals can be found on page 24. At the time this report was created, there were four hospitals deemed “in the process” trauma centers for the purposes of the triage and transport rule. However, this report spans data for Quarter 4, 2013, and IU - Health Ball Memorial was the only hospital with “in the process” status during the entire quarter. Trauma centers represented 54.3 % of the data. There were 2,240 incidents reported for October, 1,824 reported for November, and 1,775 reported for December.

The content of this report has changed due to suggestions and additions requested by the Indiana State Trauma Care Committee at the February, 2014 meeting. Explanations of the changes requested and adapted from the ISTCC meeting can be found on page 25.

Some general reminders include that the blue columns represent an Indiana average, red columns represent trauma centers, and green columns represent non-trauma centers. If a single percent is listed above a group of bars, the percent listed represents the average for Indiana. If a number is listed above a group of bars, it represents the count for Indiana.

The E-codes used in this report follow the ICD-9 CDC matrix of external cause of injury. The vendor of the ITR, ImageTrend, added “Trauma Types” for several E-codes that previously did not have a trauma type. This affected the Trauma Types chart on page 3 and also impacted the ability to calculate PS for some incidents due to new inclusion in “blunt” or “penetrating” Trauma Types.

### Definitions:

**Direct Admit:** Patient is admitted directly to the hospital and does not spend time in Emergency Department. The ED Length of Stay should reflect a direct admittance.

**External Cause of Injury:** ICD-9-CM codes that are used to describe the mechanism or external factor that caused the injury event.

**Trauma Type:** The classification of the force applied to the body. Trauma type categories include blunt, penetrating, thermal, and other trauma.

**Injury Severity Score:** An anatomical scoring system defined as the sum of the three highest squared maximum AIS values to account for multiple injuries in the six body regions.

### Acronyms:

CAHs: Critical Access Hospital  
E-code: External Cause of Injury  
ED: Emergency Department  
ICU: Intensive Care Unit  
ISS: Injury Severity Score

LOS: Length of Stay  
MVC: Motor Vehicle Collision  
OR: Operating Room  
Ps: Probability of Survival



Indiana State  
Department of Health  
Trauma and Injury Prevention

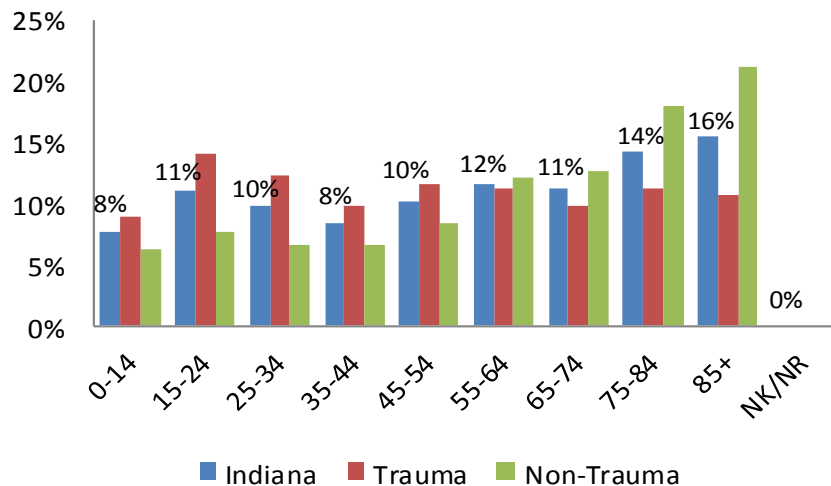
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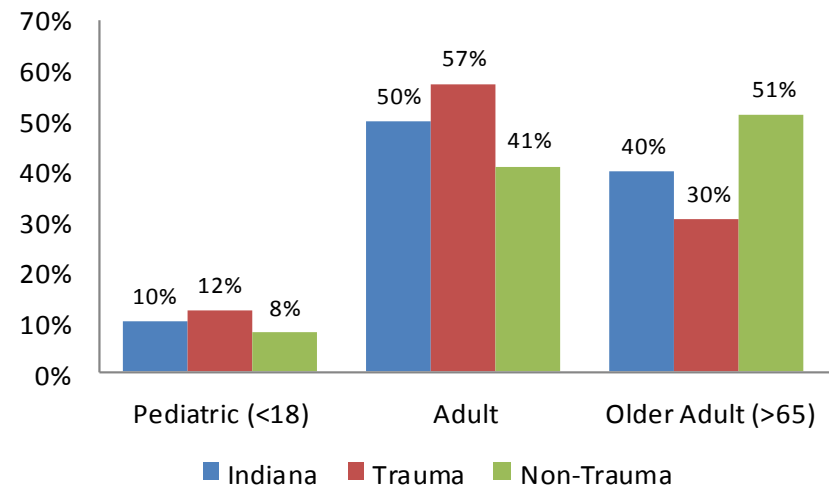
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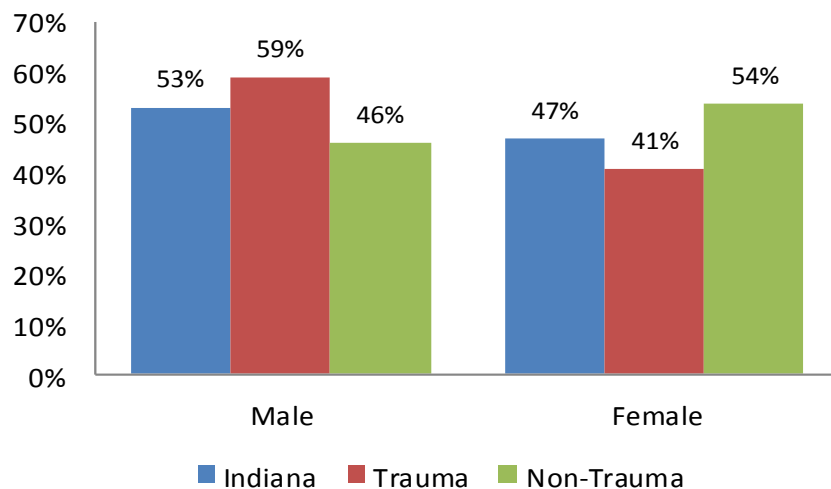
### Patient Age (Years)



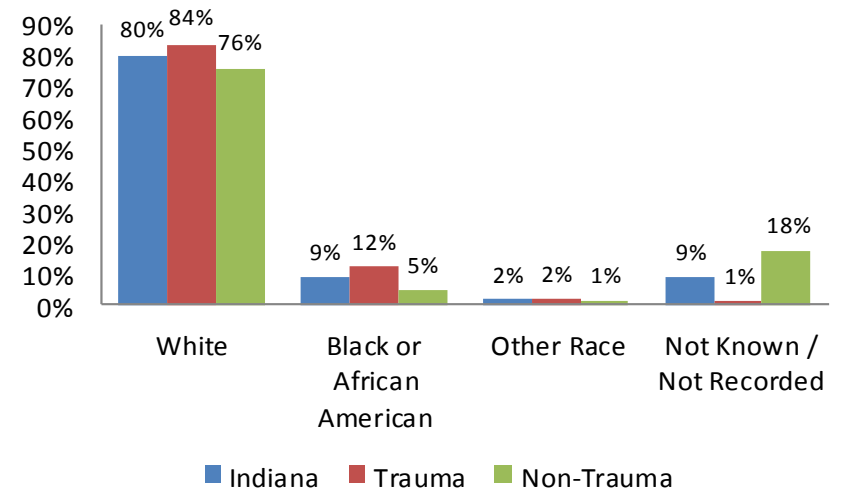
### Patient Age Groupings



### Patient Gender



### Patient Race



There were two unknown ages reported, which represents 0.03% of the data.

<1% Race - Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native

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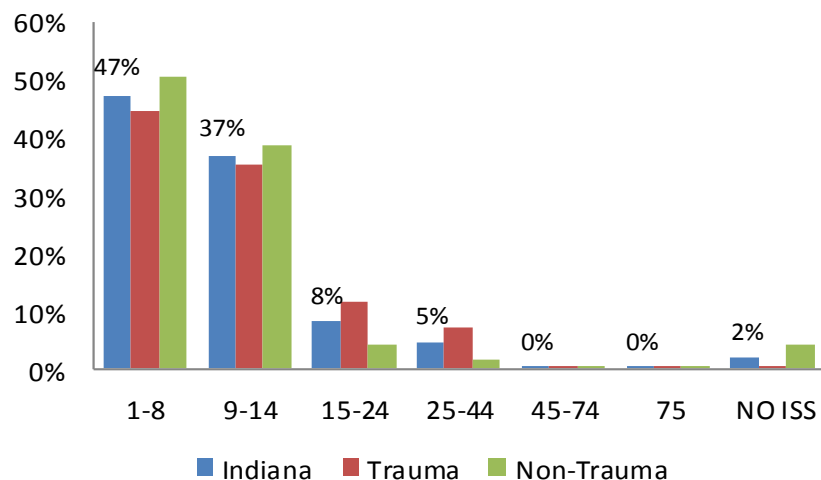
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5,839 Incidents

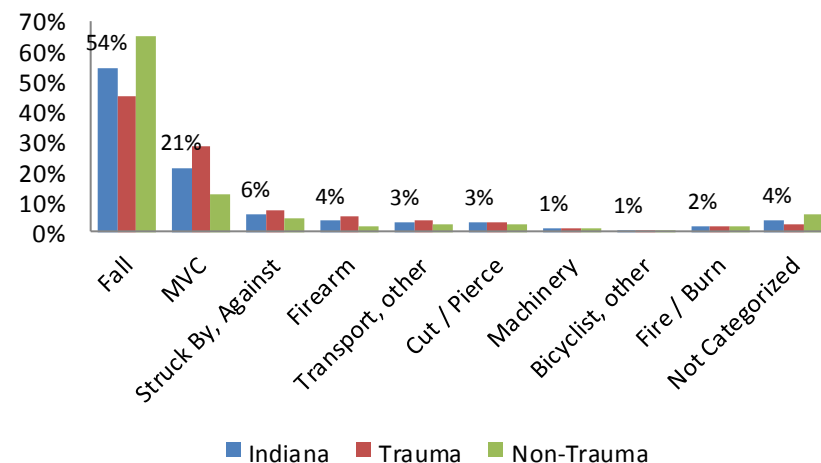
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## Injury Severity Score (ISS)

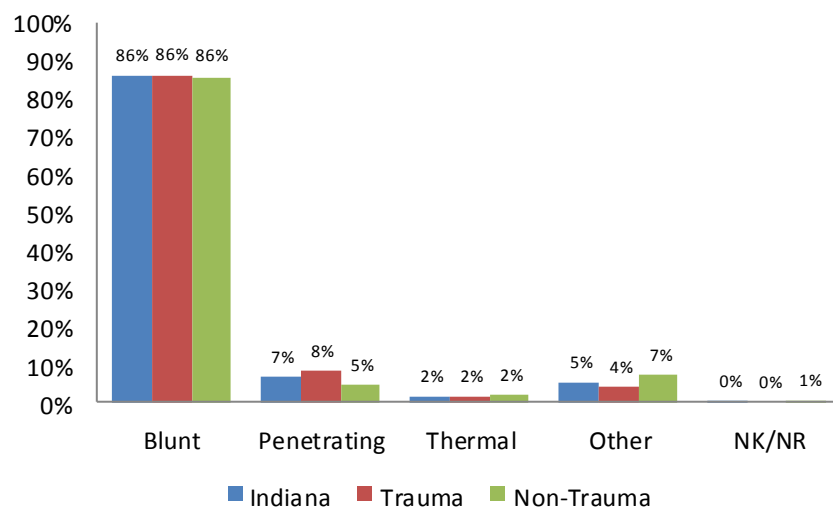


## Cause of Injury

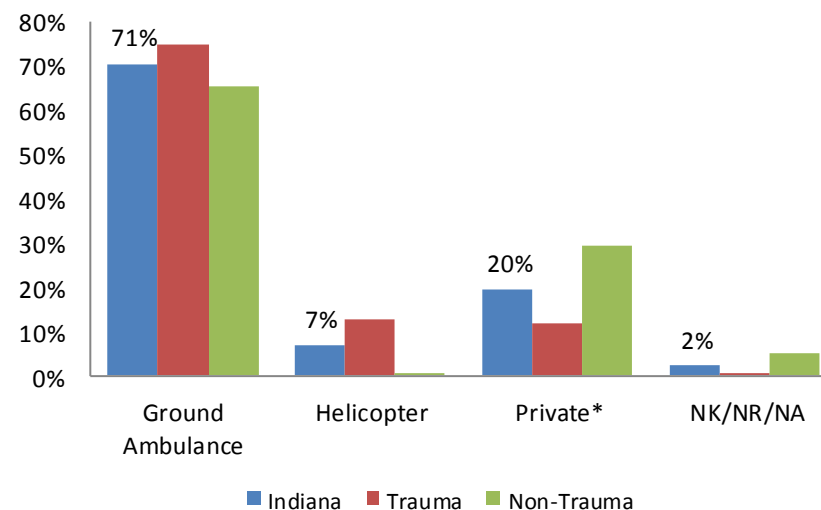


<1% COI: Pedestrian Traffic Accident, Natural/Environment, Fire/Burn, Overexertion, Bites/Stings, No E-Code

## Trauma Type



## Transport Mode



<1% Transport Mode: Police, Other

\* Indicates Private/ Public Vehicle, Walk-in

# Indiana Trauma Registry

## Statewide Quarter 4 Data Report

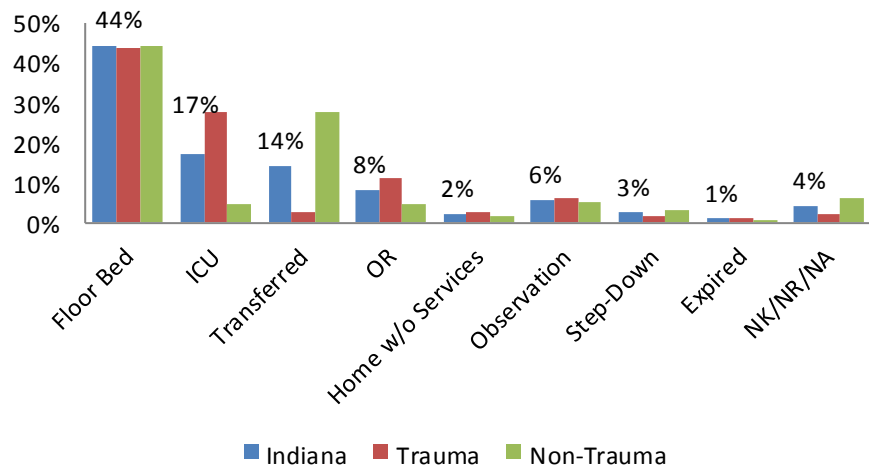
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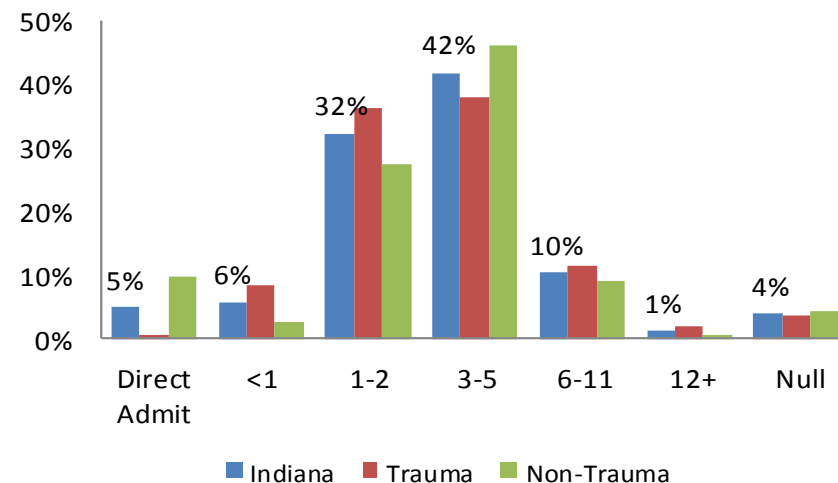
Trauma Centers:	9 facilities	54.3% of data
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### ED Disposition by Percentage

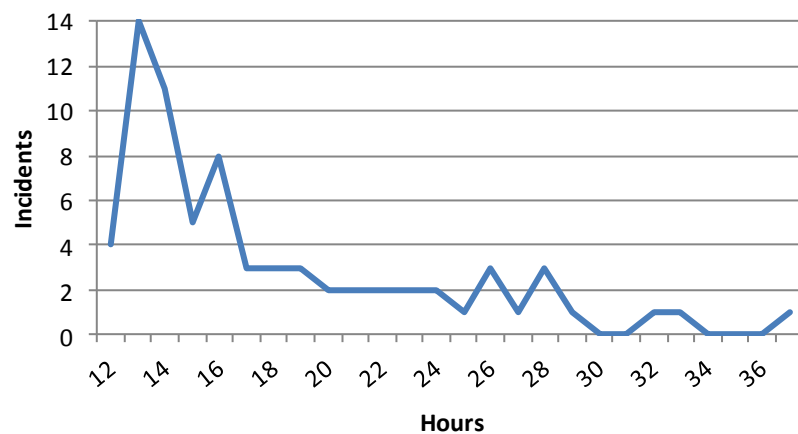


<1% ED Disposition: AMA; Home with Services; Other

### ED Length of Stay (Hours)

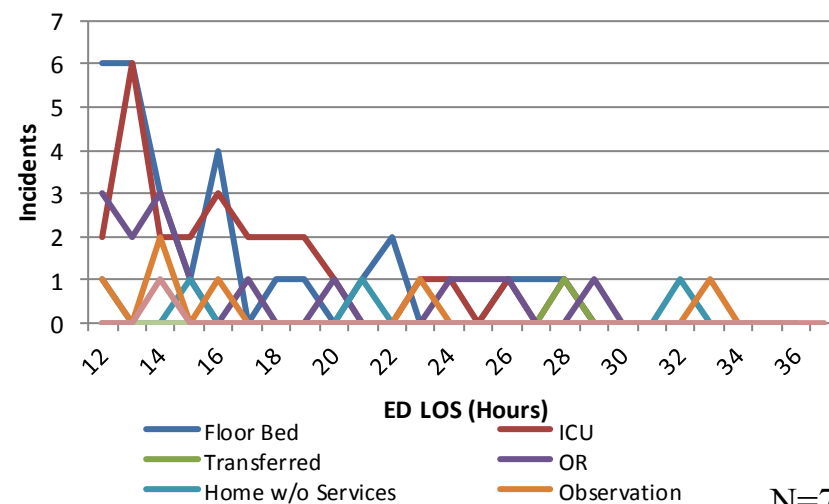


### ED LOS >12 Hours



N=73

### ED Disposition for ED LOS >12 Hours



N=73

One Patient Expired at 14 Hours

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Trauma Centers:

9 facilities

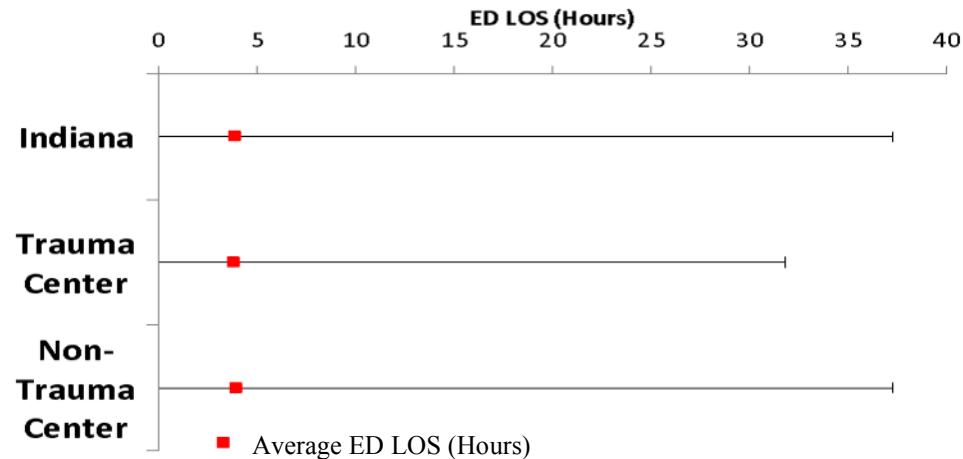
54.3% of data

(Non-Trauma) Hospitals:

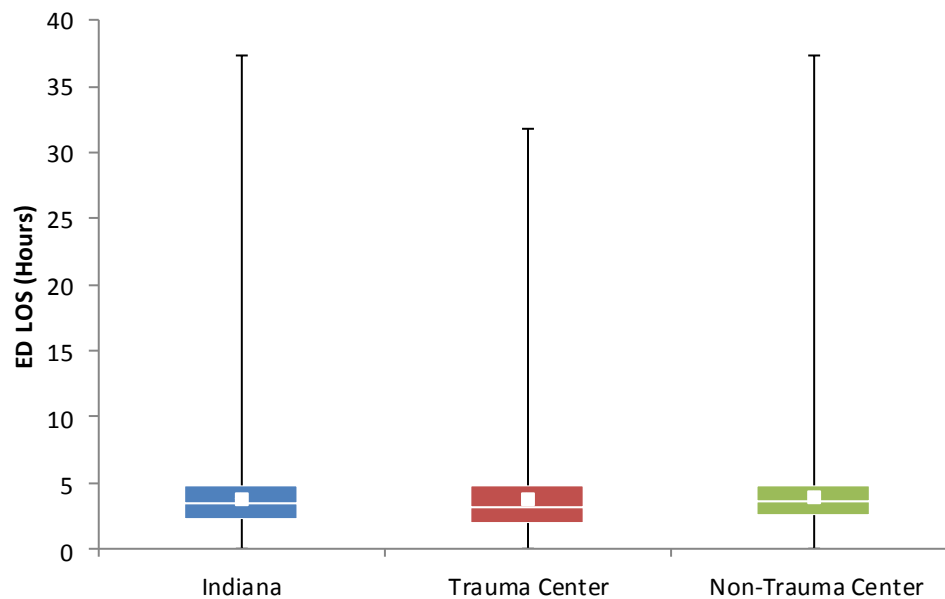
51 facilities

45.7% of data

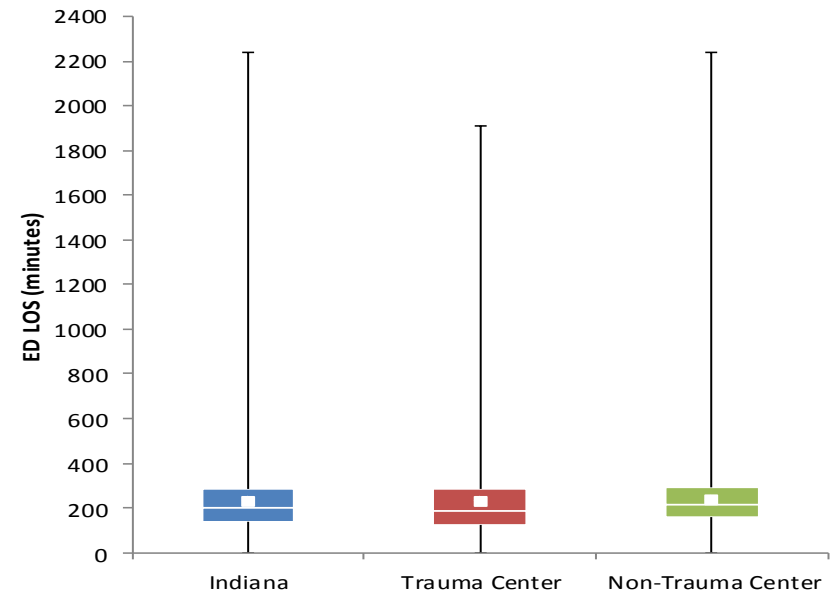
### ED LOS (Hours)



### ED LOS (Hours)



### ED LOS (Minutes)



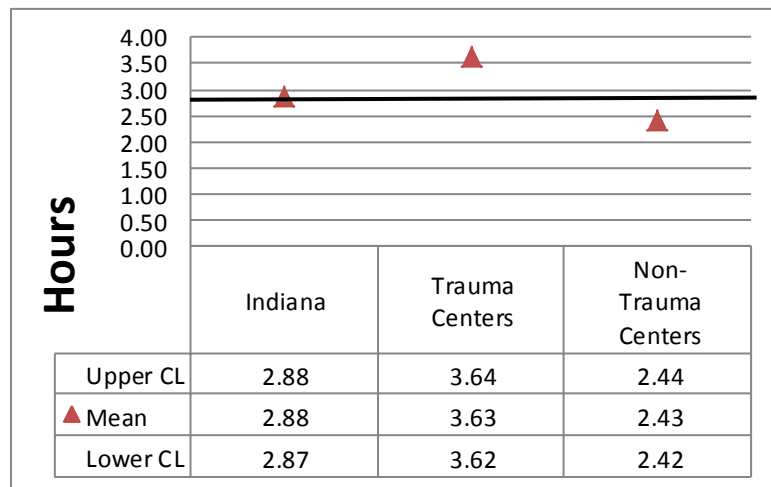
A table with all the values for ED LOS is found on page 22. An explanation and example of bar and whisker plots can be found on page 25.

# Indiana Trauma Registry

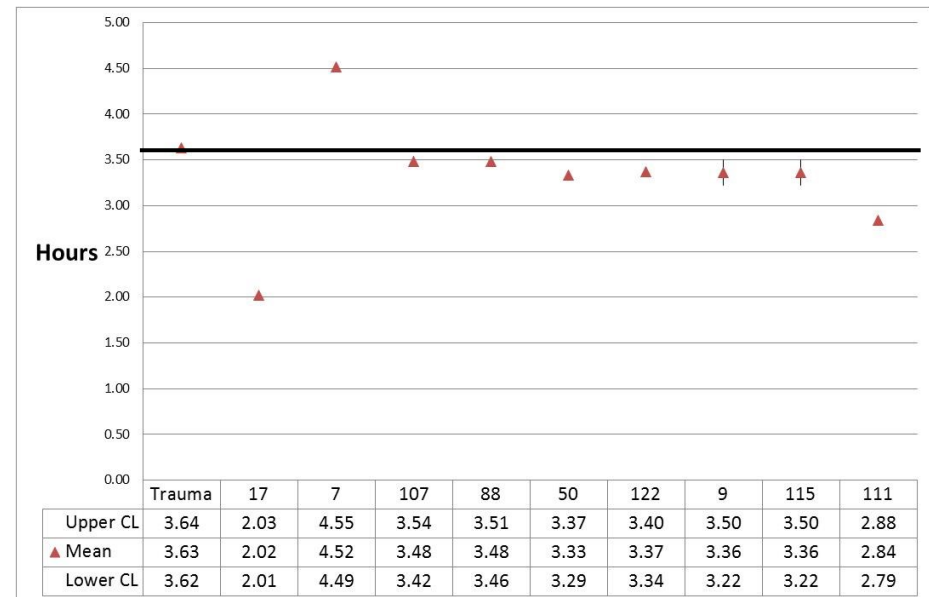
## Statewide Quarter 4 Data Report October 1, 2013 to December 31, 2013 5,839 Incidents

60 Total Hospitals Reporting  
Trauma Centers: 9 facilities 54.3% of data  
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### Average ED LOS (Hours)



### Trauma Centers-Average ED LOS (Hours)



The purpose of the caterpillar graphs is to compare different groups to the average ED LOS. The Indiana mean is the comparison group, which is represented by the black line.

The ED LOS for these graphs was modeled using time-to-event analysis. The purposes of using this analysis were to account for censoring (death) and to see how variables influence ED LOS. The outcome variable was ED LOS and the independent variables were total GCS and age. If total GCS was missing but manual total GCS was recorded, then the manual total GCS was used. These two variables were used because they were the most similar to variables used in the published, peer-reviewed literature on ED LOS. Both were significant in the model. Increasing total GCS and age led to a slightly shorter ED LOS. Hospitals that did not have enough incidents with total GCS or age could not be modeled.

In the chart on the left, note the trauma center average is above the mean and the non-trauma center is below the mean. The mean, 95% confidence limit and lower confidence limit are listed for each group.

In the chart on the right, the data is for the trauma centers. The trauma center average is in the first column on the left side. The information for each trauma center has been assigned a random number for confidentiality. The mean, 95% confidence limit and lower confidence limit are listed for each group.

# Indiana Trauma Registry

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Trauma Centers:

9 facilities

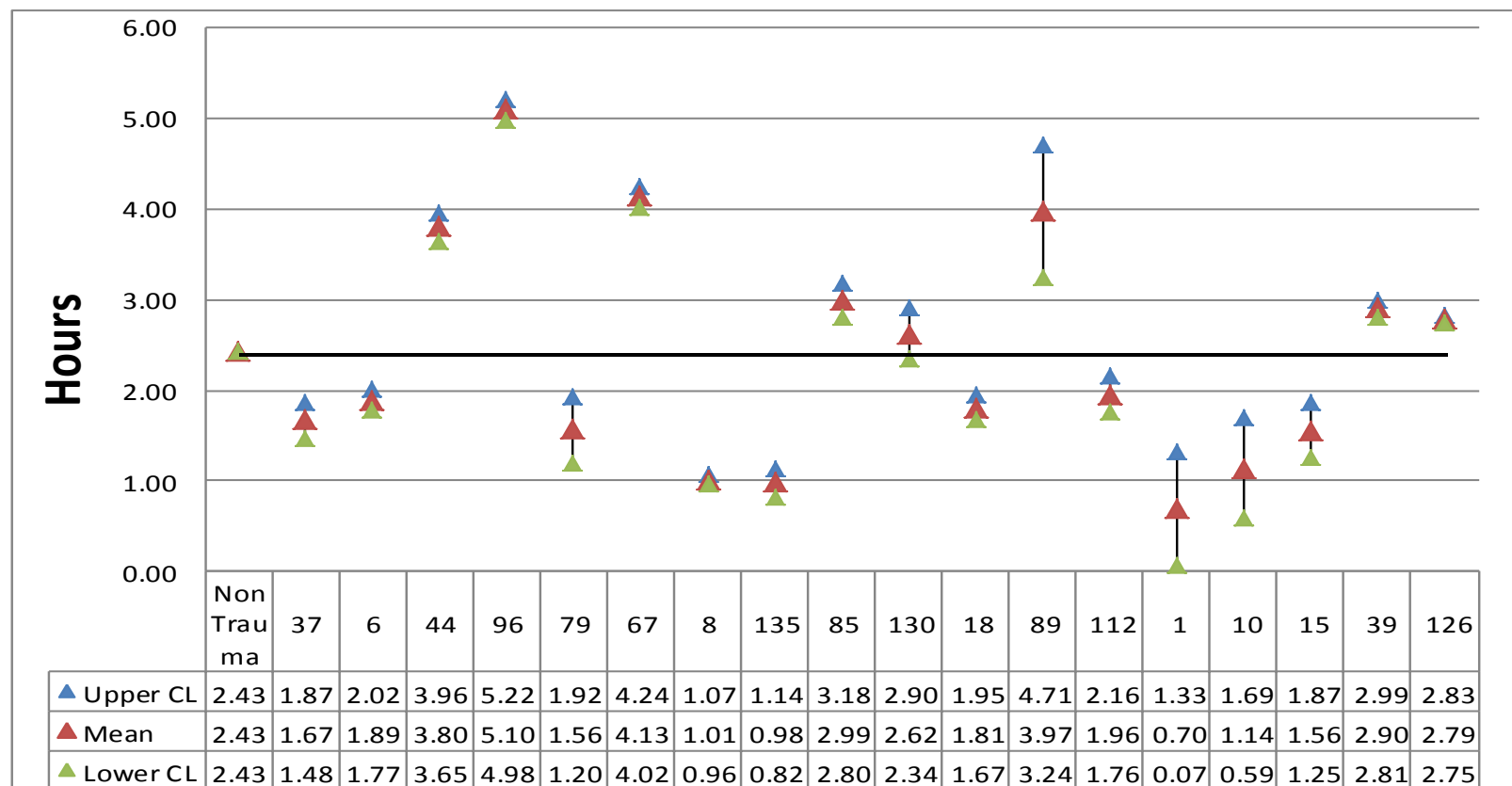
54.3% of data

(Non-Trauma) Hospitals:

51 facilities

45.7% of data

## Non-Trauma Centers- Average ED LOS (Hours)



The purpose of the caterpillar graphs is to compare different groups to the average ED LOS. The Indiana mean is the comparison group, which is represented by the black line.

In the chart above, the data is for the non-trauma centers. The non-trauma center average is in the first column on the left side. Each non-trauma center has been assigned a random number for confidentiality. The mean, 95% confidence limit and lower confidence limit is listed for each group.

# Indiana Trauma Registry

## Statewide Quarter 4 Data Report

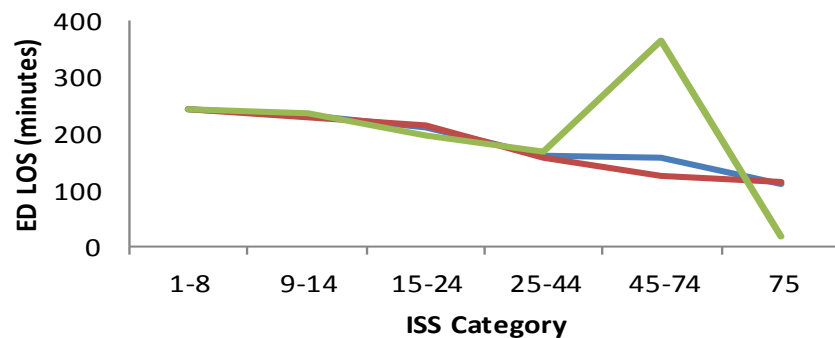
October 1, 2013 to December 31, 2013

5,839 Incidents

60 Total Hospitals Reporting

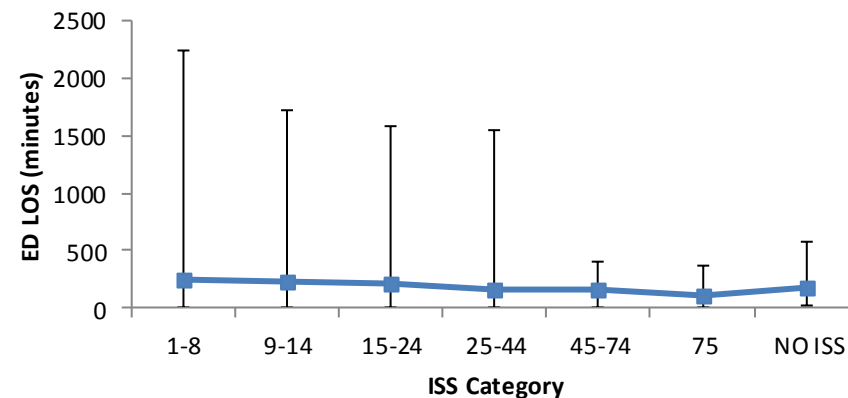
Trauma Centers:	9 facilities	54.3% of data
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### ED LOS (Minutes) by ISS



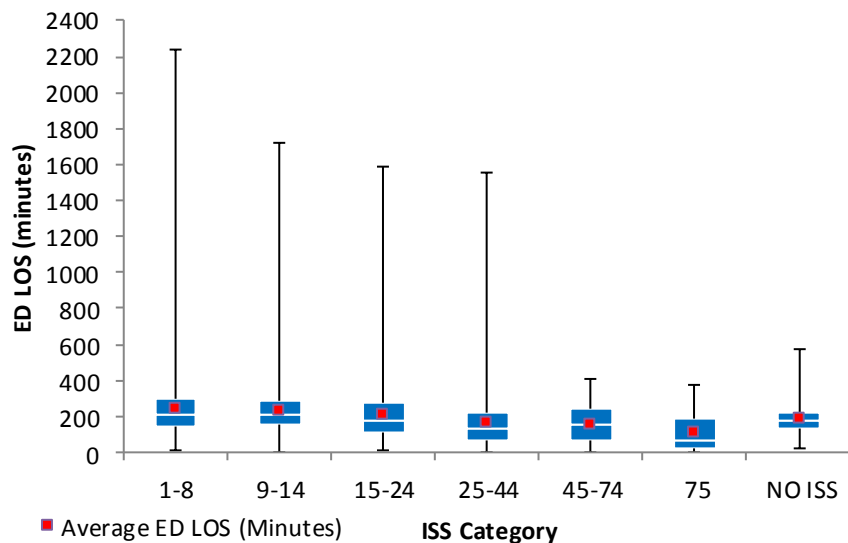
— Indiana Average — Trauma Center  
— Non-Trauma Center

### ED LOS (Minutes) by ISS



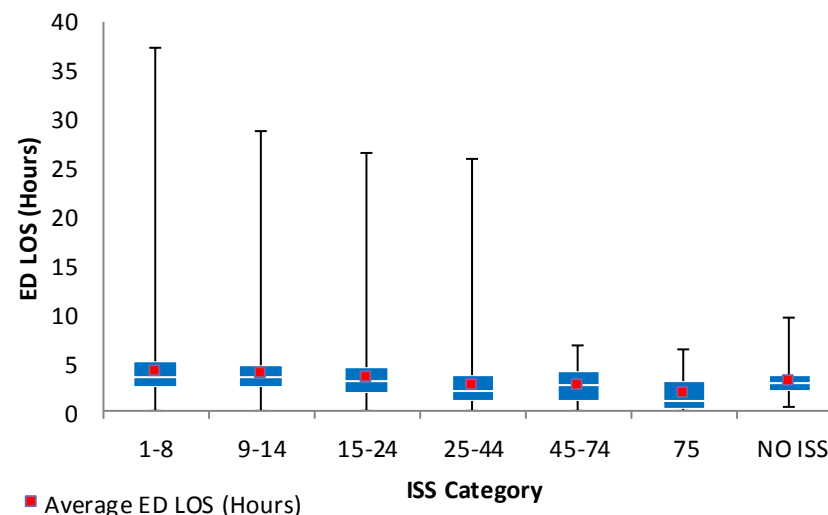
■ Average ED LOS (Minutes)

### ED LOS (Minutes) by ISS



■ Average ED LOS (Minutes)

### ED LOS (Hours) by ISS



■ Average ED LOS (Hours)

\*A table with values for ED LOS by ISS is found on page 22. Note for ED LOS by ISS, there were 3 cases at Non-Trauma Centers with ISS greater than 45.



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Trauma Centers:

9 facilities

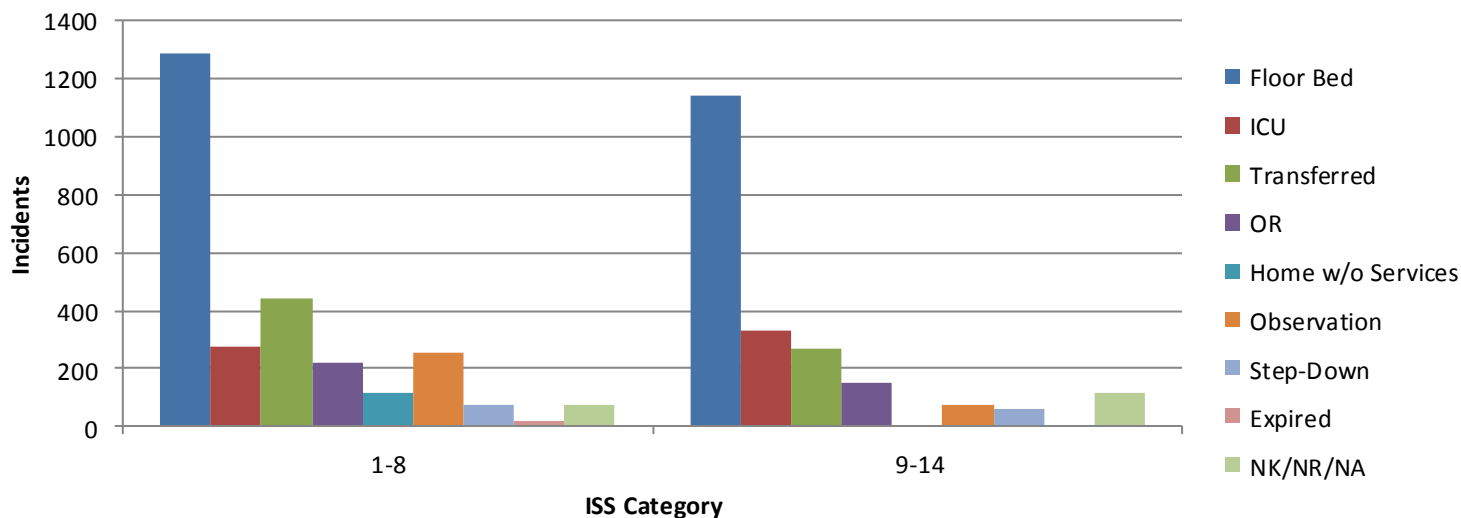
54.3% of data

(Non-Trauma) Hospitals:

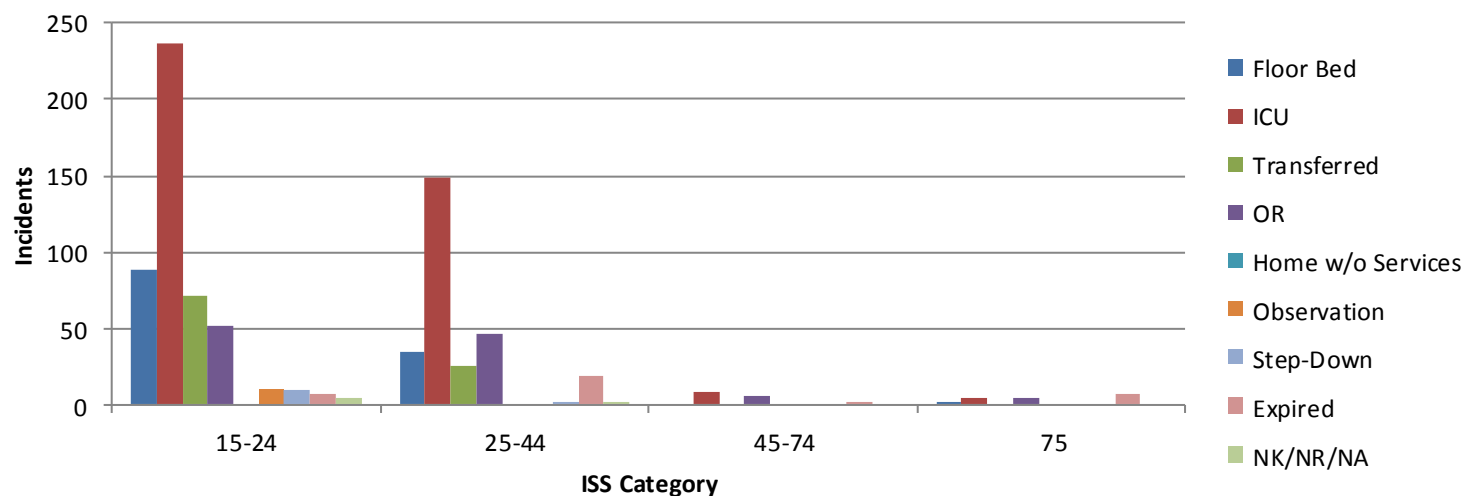
51 facilities

45.7% of data

### ED Disposition by ISS 1-14



### ED Disposition by ISS 15-75



ED Disposition <1%: AMA; Home with services; Other (Jail, Mental Institution, etc.). Please note the difference in axis scale between the top and bottom graphs.

\*A table with values for ED Disposition by ISS is found on page 23.

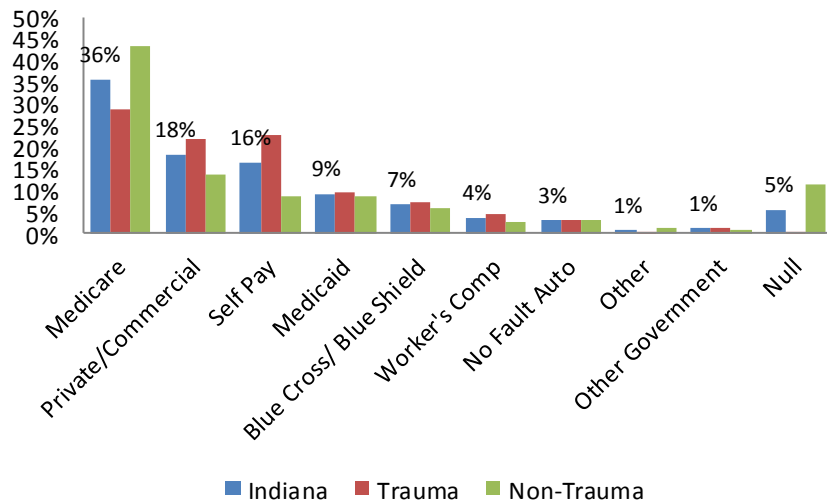
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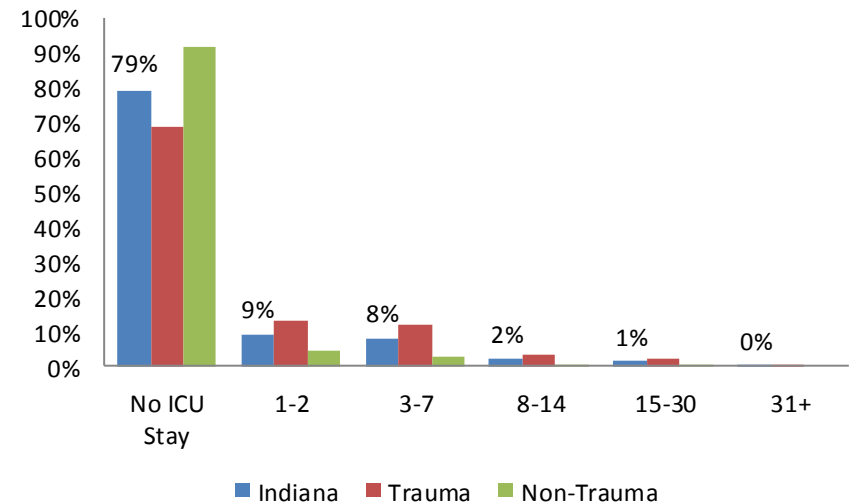
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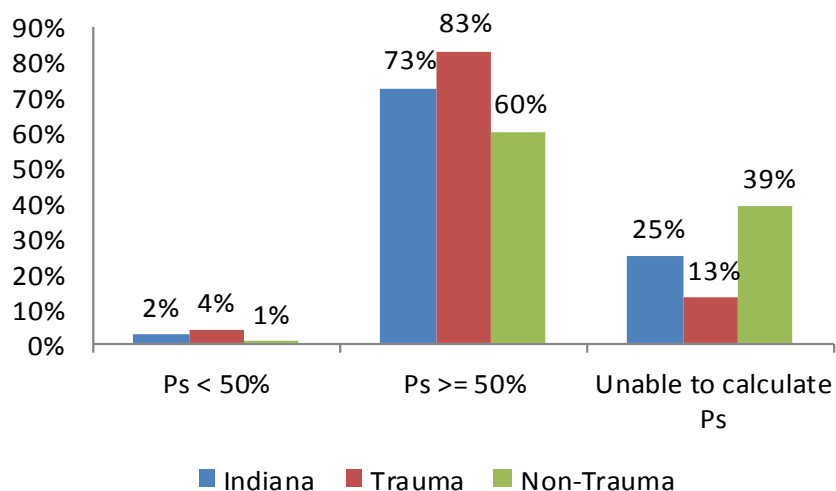
### Primary Payer Mix



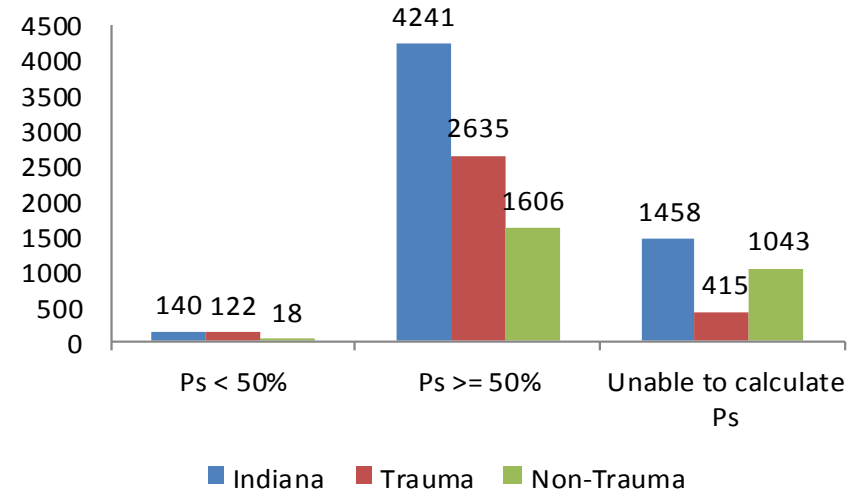
### ICU Length of Stay (Days)



### Probability of Survival (Ps) by Percent



### Probability of Survival (Ps) by Count



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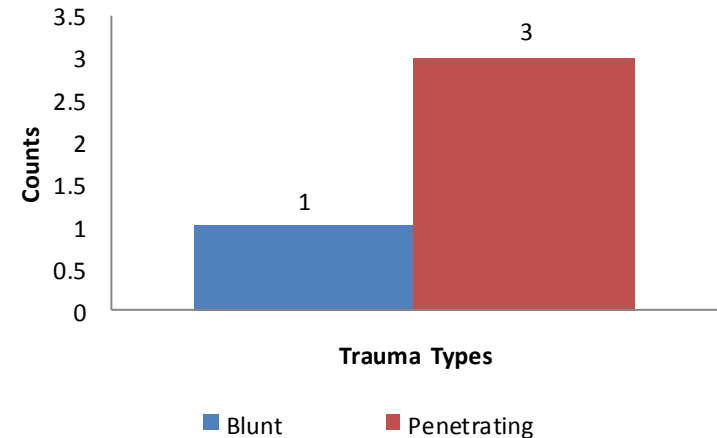
60 Total Hospitals Reporting

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### ED Disposition of Expired for Ps $\geq 50\%$ , N=4

Patients with Ps $\geq 50\%$ Expired in ED, N=4	
Gender	4 Males
Average Age	33.5 years (19-54 years)
Facilities	3 Non-Trauma Centers 1 Trauma Center
Transport Type	3 Ground ambulance; 1 Private/public vehicle/walk-in
Cause of Injury	1 MVC; 2 Cut/Pierce; 1 Firearm
Inter-Facility Transfer	0 Transfers
Average Distance from Scene to Facility	7.2 miles (2.9-13.3 miles)
Signs of Life	2 Arrived with no signs of life; 2 Arrived with signs of life

### Trauma Type



	Trauma Type	ISS	RTS- GCS Scale	RTS- Systolic Scale	RTS- Respiratory Scale	Revised Trauma Score (RTS)	B Value	PS	Signs of life
1	Penetrating	2	0	4	3	3.80	1.11	0.7525	Arrived with no signs of Life
2	Penetrating	26	4	4	3	7.55	3.27	0.9634	Arrived with signs of Life
3	Penetrating	14	3	4	3	6.61	3.12	0.9578	Arrived with signs of Life
4	Blunt	20	0	4	3	3.80	0.95	0.7221	Arrived with no signs of Life

# Indiana Trauma Registry

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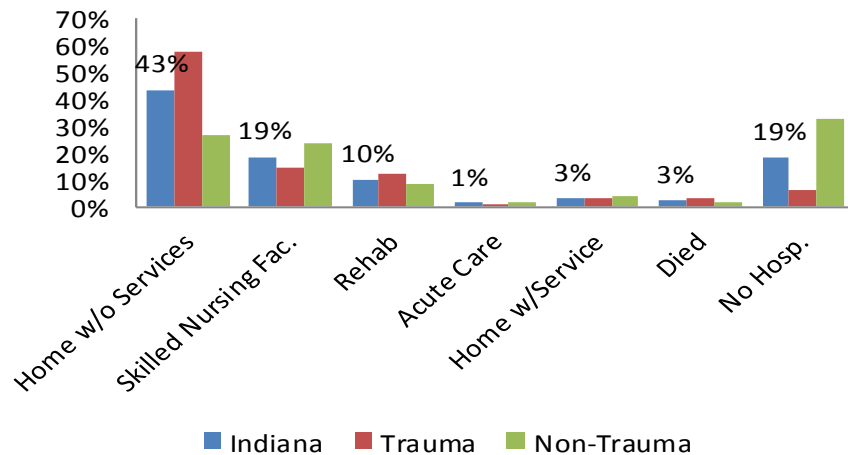
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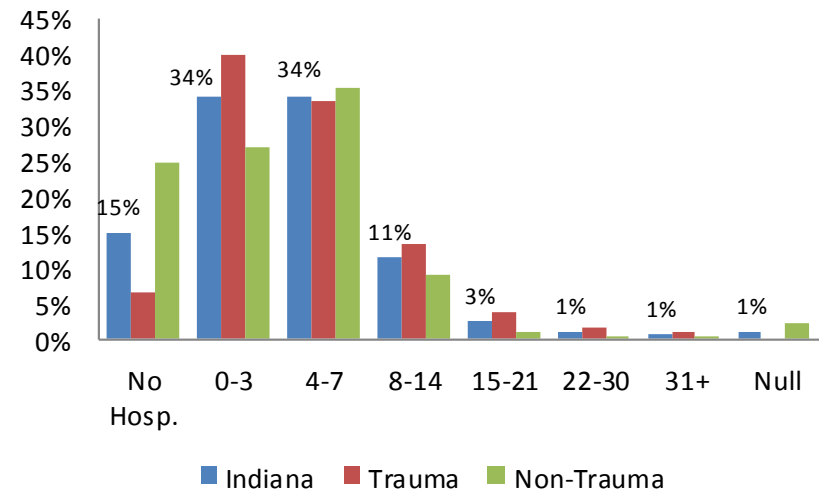
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### Hospital Disposition

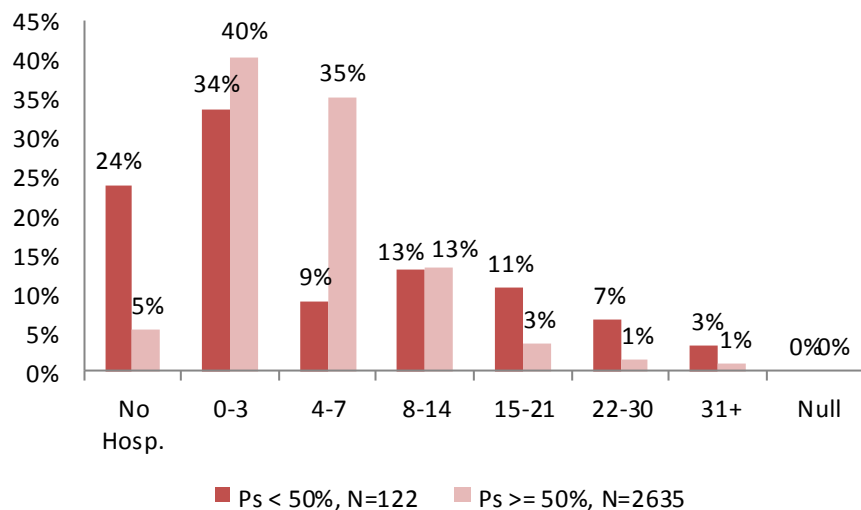


### Hospital Length of Stay (days)

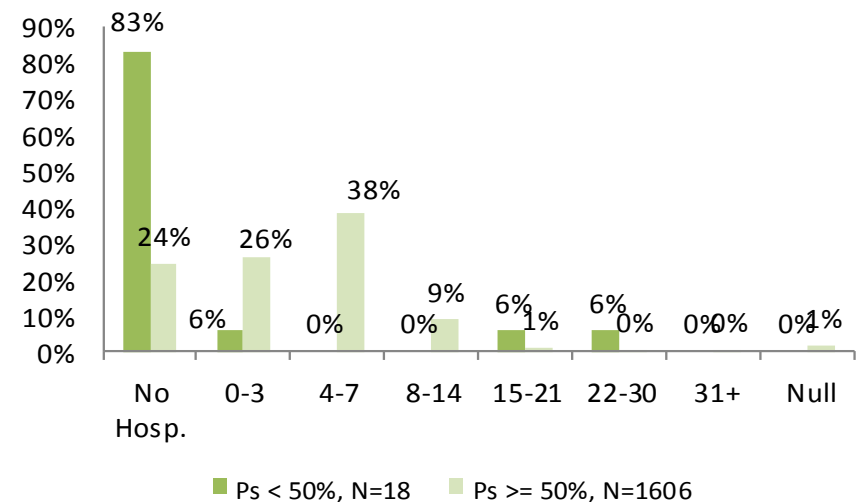


\*<1% Hospital Disposition: Intermediate Care Center, Hospice Care, AMA

### Hospital LOS (days) by Ps Trauma Centers



### Hospital LOS (days) by Ps Non-Trauma Centers



# Indiana Trauma Registry

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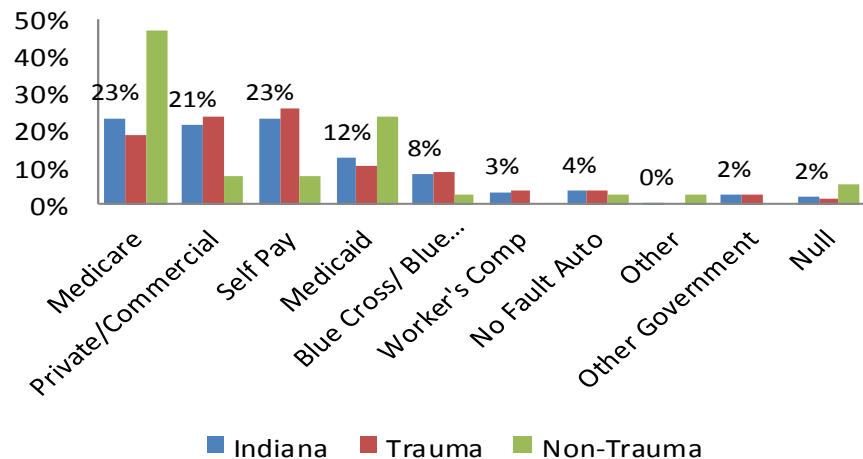
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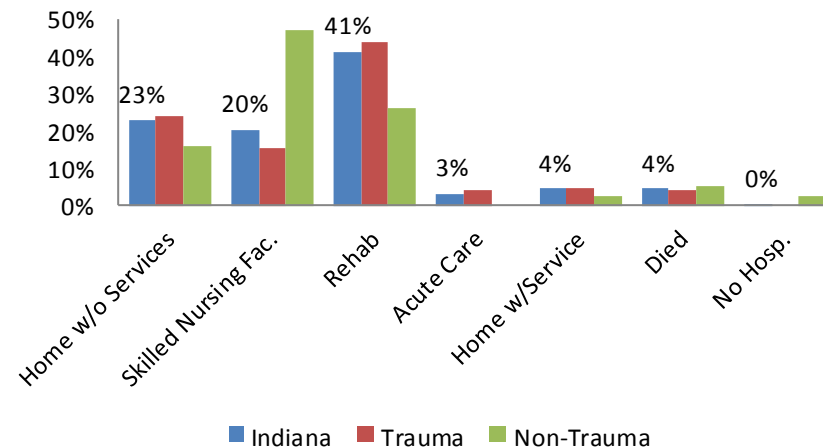
Trauma Centers:	9 facilities	54.3% of data
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## Hospital Length of Stay > 15 days, N=249

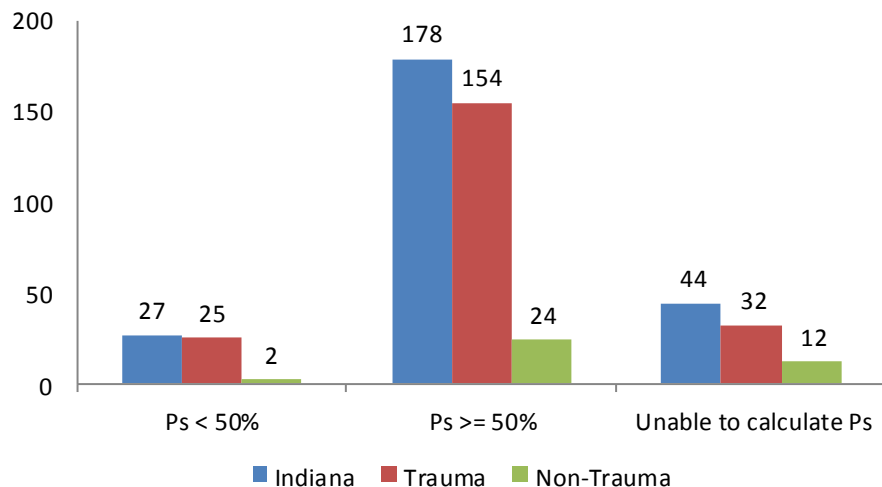
### Primary Payer Mix



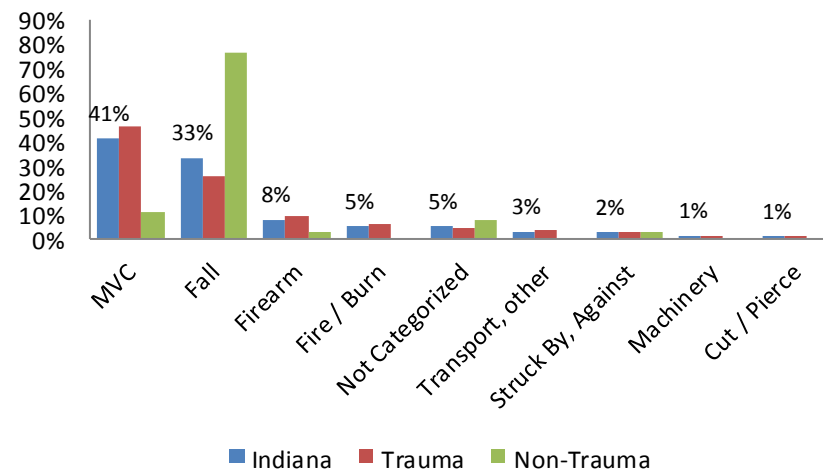
### Hospital Disposition



### Probability of Survival



### Cause of Injury



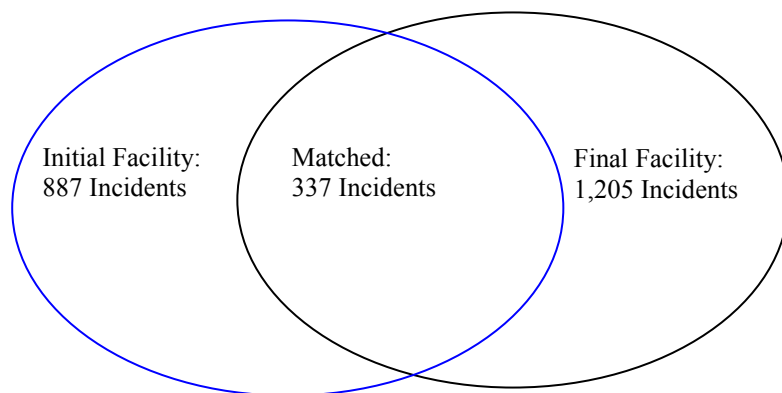
# Indiana Trauma Registry

## Statewide Quarter 4 Data Report October 1, 2013 to December 31, 2013 5,839 Incidents-337 Linked Transfer Cases

### 60 Total Hospitals Reporting

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For Quarter 4 2013, of the 5,839 incidents reported to the Indiana Trauma Registry, 2,092 cases that had an ED Disposition of “Transferred to another acute care facility” at the initial facility or that had the Inter-Facility Transfer equal to “Yes” at the Trauma Center. Of those transferred, 337 cases were probabilistically matched. The linked cases make up 11.5% of the Q4 2013 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can then be matched.



The initial facility in which transfers come from may be considered Critical Access Hospitals (CAHs). All Indiana CAHs are considered Rural, and must meet additional requirements to have a CAH designation, such as having no more than 25 inpatient beds and being located in a rural area. Facilities that are highlighted indicate that this facility reported data for Quarter 4 2013.

Within this transfer data section, the purple columns represent the transfer cases and the single percentages represent the percent for the transfer cases. For two demographic variables, patient age groupings and gender, the Indiana average is included to provide more insight to this transfer population.

### Indiana Critical Access Hospitals (CAHs)

Adams Memorial Hospital	Pulaski Memorial Hospital
Cameron Memorial Community Hospital	Putnam County Hospital
Community Hospital of Bremen	Rush Memorial Hospital
Decatur County Memorial Hospital	Scott Memorial Hospital
Dukes Memorial Hospital	St. Mary's Warrick Hospital
Gibson General Hospital	St. Vincent – Clay Hospital
Greene County General Hospital	St. Vincent – Dunn Hospital
Harrison County Hospital	St. Vincent – Frankfort Hospital
IU Health – Bedford Hospital	St. Vincent – Jennings Hospital
IU Health – Blackford Hospital	St. Vincent – Mercy Hospital
IU Health – Paoli Hospital	St. Vincent – Randolph Hospital
IU Health – Tipton Hospital	St. Vincent- Salem Hospital
IU Health – White Memorial Hospital	St. Vincent – Williamsport Hospital
Jasper County Hospital	Sullivan County Community Hospital
Jay County Hospital	Union Hospital Clinton
Margaret Mary Community Hospital	Wabash County Hospital
Parkview LaGrange Hospital	Woodlawn Hospital
Perry County Memorial Hospital	

### Indiana Rural Hospitals

Columbus Regional Hospital	Kosciusko Community Hospital
Fayette Regional Health System	Marion General Hospital
Franciscan St. Anthony Health – Michigan City	Memorial Hospital (Logansport)
Franciscan St. Elizabeth Health – Crawfordsville	Memorial Hospital & Health Care Center (Jasper)
Good Samaritan Hospital	Parkview Noble Hospital
Henry County Memorial Hospital	Reid Hospital & Health Care Services
IU Health – LaPorte Hospital	St. Joseph's Regional Medical Center – Plymouth
IU Health – Starke Hospital	Schneck Medical Center
King's Daughters' Health	

# Indiana Trauma Registry

## Statewide Quarter 4 Data Report

October 1, 2013 to December 31, 2013

5,839 Incidents—337 Linked Transfer Cases

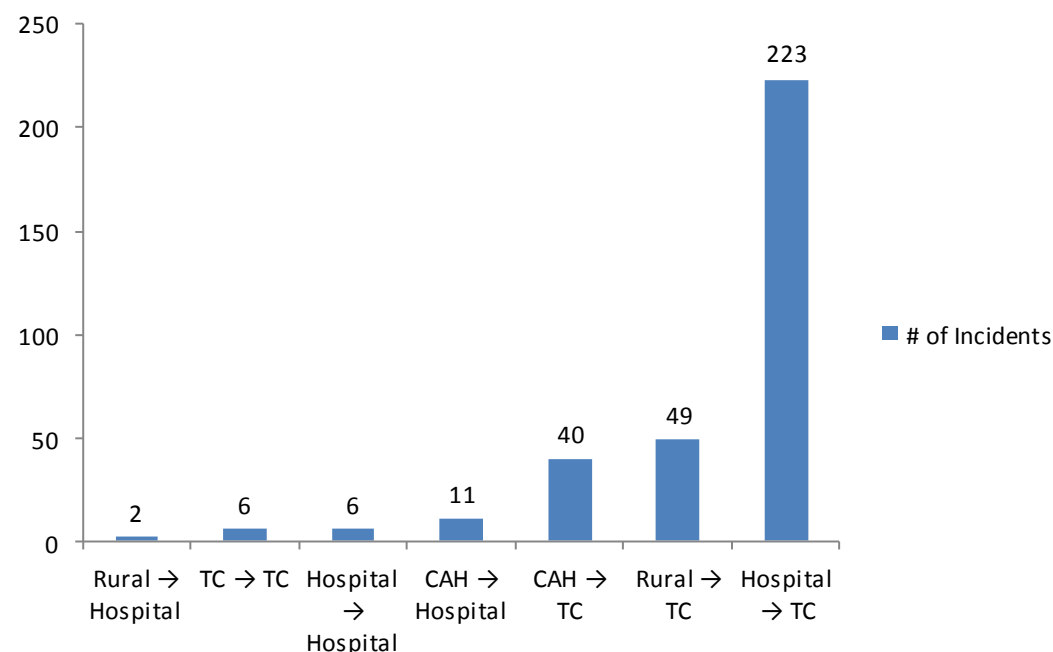
60 Total Hospitals Reporting

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## Facility to Facility Transfers

For Transfer Patients:		
Initial Hospital Type	Final Hospital Type	Incident Counts
Rural Hospital	Hospital	2
Hospital	Hospital	6
Trauma Center	Trauma Center	6
Critical Access Hospital	Hospital	11
Critical Access Hospital	Trauma Center	40
Rural Hospital	Trauma Center	49
Hospital	Trauma Center	233
Total		337

## Facility Transfer Type



Rural = Rural Hospital; TC = ACS Verified Trauma Center; CAH = Critical Access Hospital; Hospital = does not fall into above categories

At the time this report was created, there were four hospitals deemed “in the process” trauma centers for the purposes of the triage and transport rule. Because this report spans data from October 1-December 31, 2013, and IU-Health Ball Memorial was the only hospital with “in the process” status during the entire quarter, we cannot separate the “in the process” trauma centers from “hospitals” because of respect for patient privacy. Patients may be able to be identified due to isolating one hospital’s data.

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### For Linked Transfer Patients:

For Transfer Patients:			
	All Transfer Patients	<u>Critical*</u> Transfer Patients	<u>Physiological Critical**</u> Transfer Patients
Number of Patients	337	101	64
EMS Notified to Scene	9 minutes	9 minutes	8 minutes
EMS Scene Arrival to Departure	16 minutes	15 minutes	14 minutes
EMS Scene Departure to Initial Hospital ED Arrival	19 minutes	20 minutes	16 minutes
Initial Hospital ED Arrival to Departure	2 hours 58 minutes	2 hours 42 minutes	2 hours 35 minutes
Initial Hospital ED Departure to Final Hospital ED Arrival	1 hour 10 minutes	59 minutes	56 minutes
TOTAL TIME	4 hours 52 minutes	4 hours 25 minutes	4 hours 6 minutes

\*Critical patient is defined as having a GCS  $\leq$  12, OR Shock Index  $>$  0.9 OR ISS  $>$  15 at the initial hospital.

\*\*Physiological Critical Transfer patient is defined as having a Shock Index  $>$  0.9 OR GCS  $\leq$  12 at the initial hospital.



# Indiana Trauma Registry

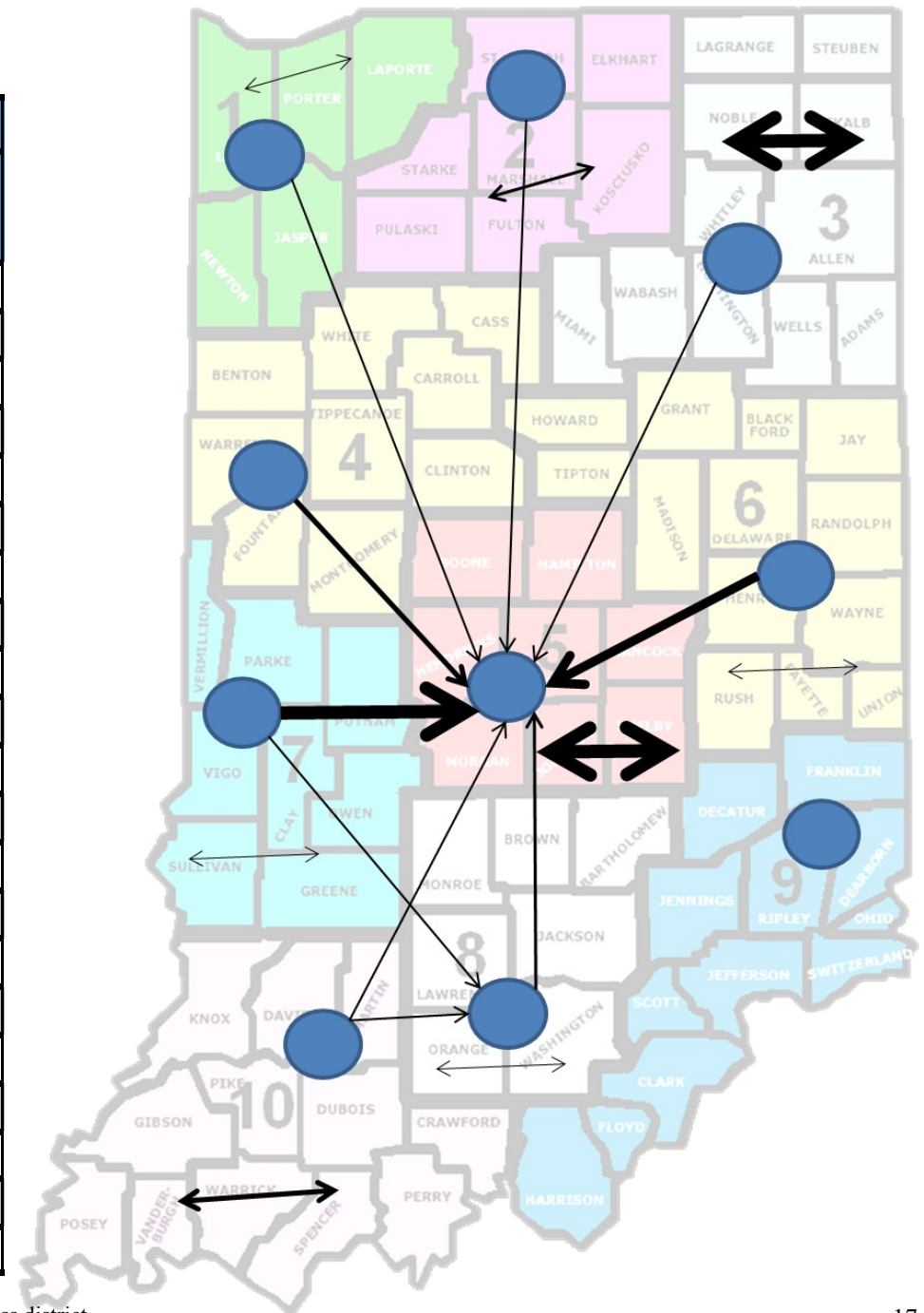
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For Transfer Patients:		
Public Health Preparedness District Initial Hospital	Public Health Preparedness District Final Hospital	Incident Counts
1	1	5
1	2	2
1	5	1
2	2	12
2	3	6
2	5	3
3	3	50
3	5	3
4	5	21
5	5	58
6	3	13
6	5	45
6	6	1
7	5	72
7	7	3
7	8	1
8	5	17
8	8	7
10	5	6
10	8	1
10	10	10

## Public Health Preparedness Districts



\*The thickness of the line indicates the frequency of transfers out of that public health preparedness district  
The circles represent transfers from a specific Public Health Preparedness District, not of a specific hospital or county.

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60 Total Hospitals Reporting

Trauma Centers:	9 facilities	54.3% of data
(Non-Trauma) Hospitals:	51 facilities	45.7% of data

### For Linked Transfer Patients:

For All Transfer Patients:			
	All Transfer Patients	<u>Critical*</u> Transfer Patients	<u>Physiological Critical**</u> Transfer Patients
Number of Patients	337	101	64
Total Time	4 hours 52 minutes	4 hours 25 minutes	4 hours 6 minutes
Total Mileage	59.67	74	72
Injury Scene to Initial Hospital Mileage***	9.98	15	14
Initial Hospital to Final Facility Mileage	49.69	59	58

Estimated Average Distance (miles) by Region (region of final hospital):					
Region	Injury Scene to Initial Facility Mileage*	Initial Facility to Final Facility Mileage	Total Mileage	Drive Count	Air Count
Indiana Average	9.98	49.69**	59.67	273	57
North Region	6.27	32.61	38.88	79	6
Central Region	10.51	54.60	65.11	176	50
South Region	20.34	46.44	66.78	18	1

\*Critical patient is defined as having a GCS  $\leq 12$ , OR Shock Index  $> 0.9$  OR ISS  $> 15$  at the initial hospital.

\*\*Physiological Critical Transfer patient is defined as having a Shock Index  $> 0.9$  OR GCS  $\leq 12$  at the initial hospital.

\*\*\*Injury Scene to Initial Facility Mileage location estimated by zip code centroid

Statistics for Estimated Average Distance by Region calculated by Public Health Geographics, Epidemiology Resource Center, ISDH

# Indiana Trauma Registry

## Statewide Quarter 4 Data Report

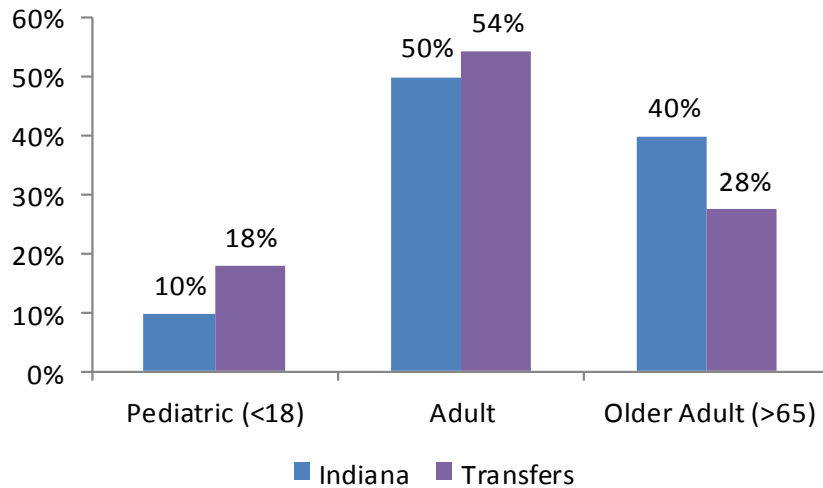
October 1, 2013 to December 31, 2013

5,839 Incidents-337 Linked Transfer Cases

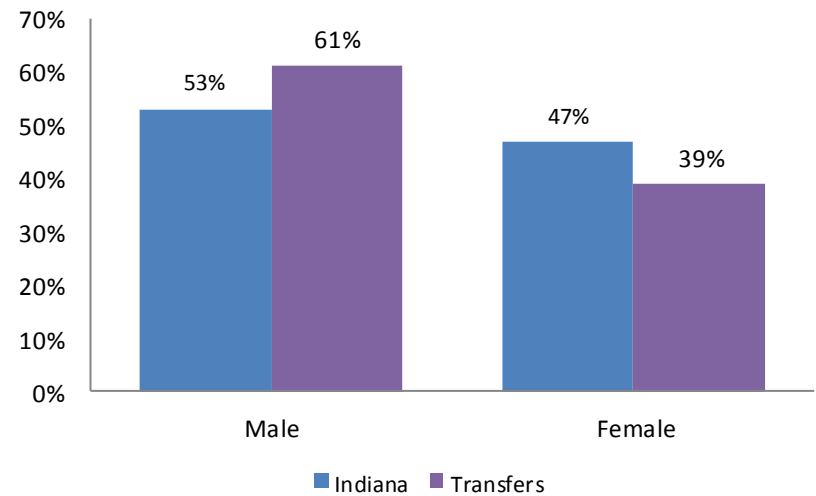
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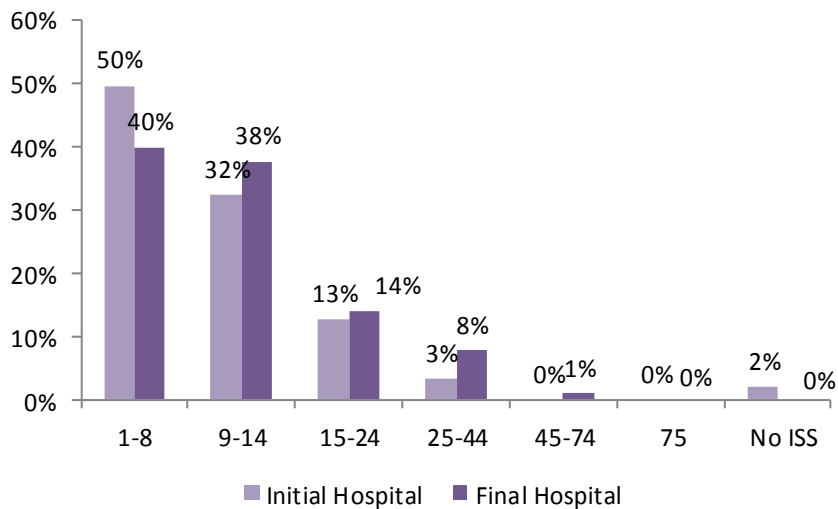
### Patient Age Groupings



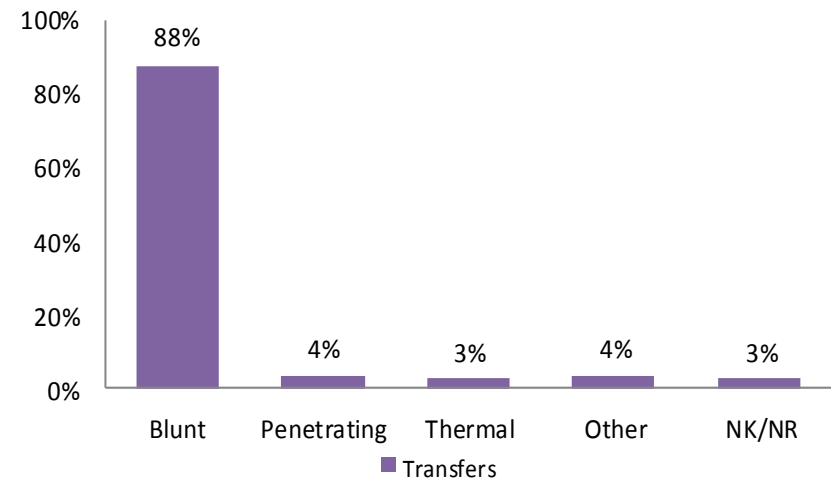
### Patient Gender



### Injury Severity Score (ISS)



### Trauma Type- Final Hospital



# Indiana Trauma Registry

## Statewide Quarter 4 Data Report

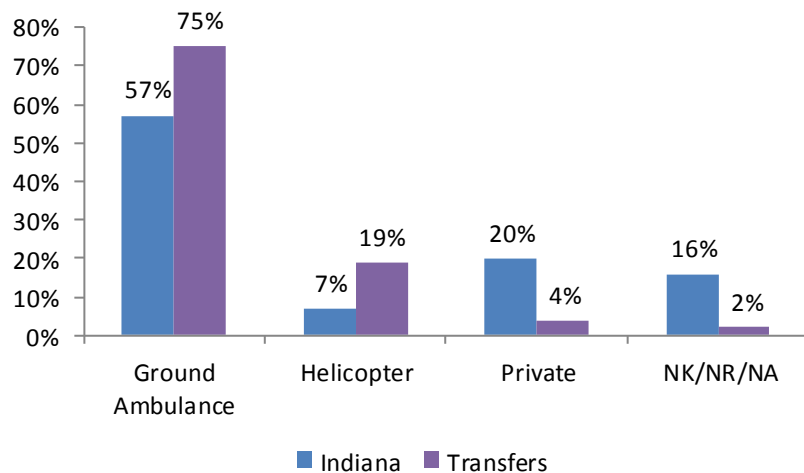
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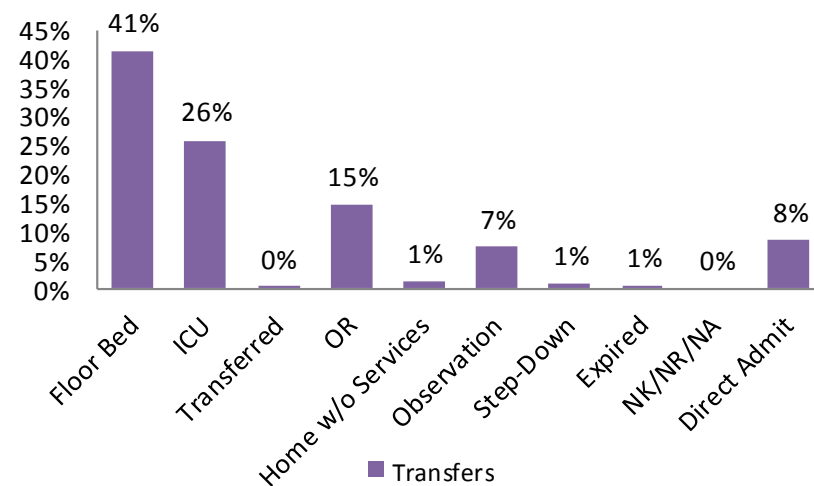
### Transport Mode- Final Hospital



<1% Transport Mode: Police, Other

\* Indicates Private/ Public Vehicle, Walk-in

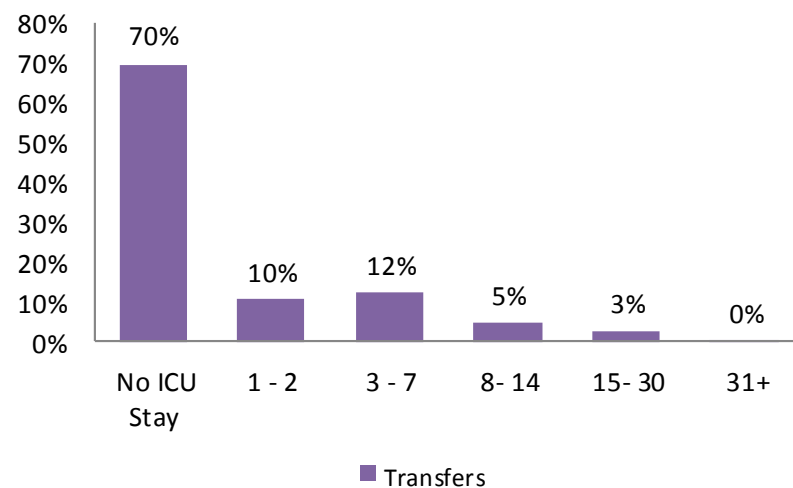
### ED Disposition by Percentage- Final Hospital



### ED Length of Stay (hours)- Final Hospital



### ICU Length of Stay (days)- Final Hospital



# Indiana Trauma Registry

## Statewide Quarter 4 Data Report

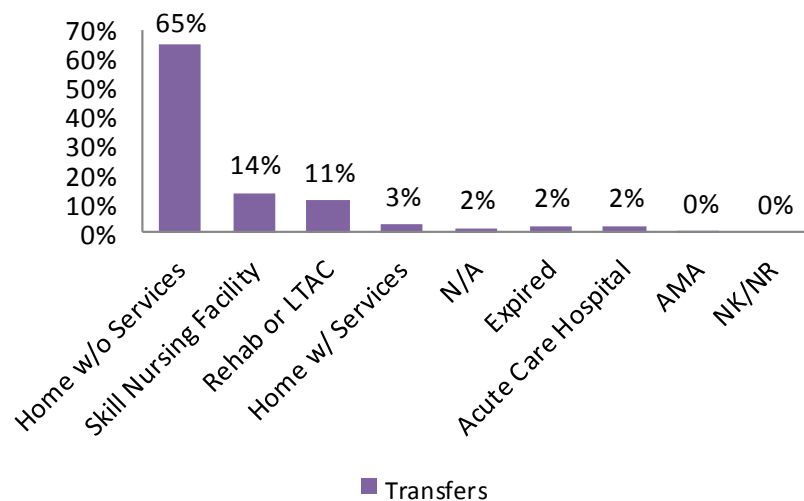
October 1, 2013 to December 31, 2013

5,839 Incidents-337 Linked Transfer Cases

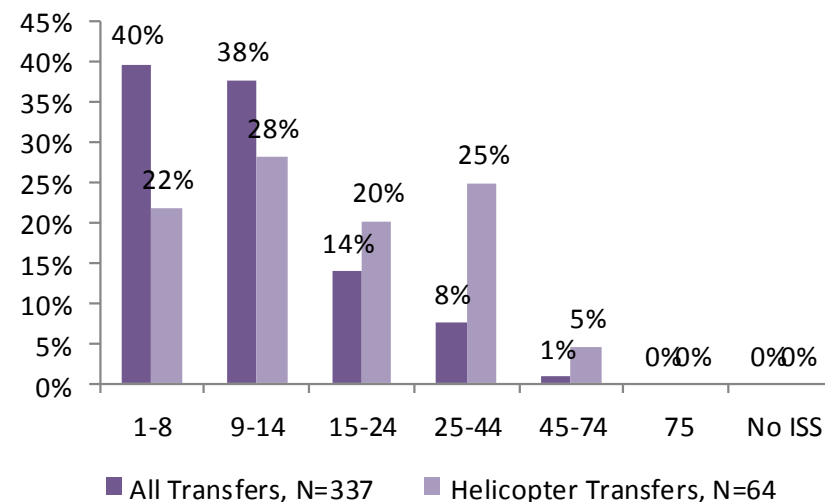
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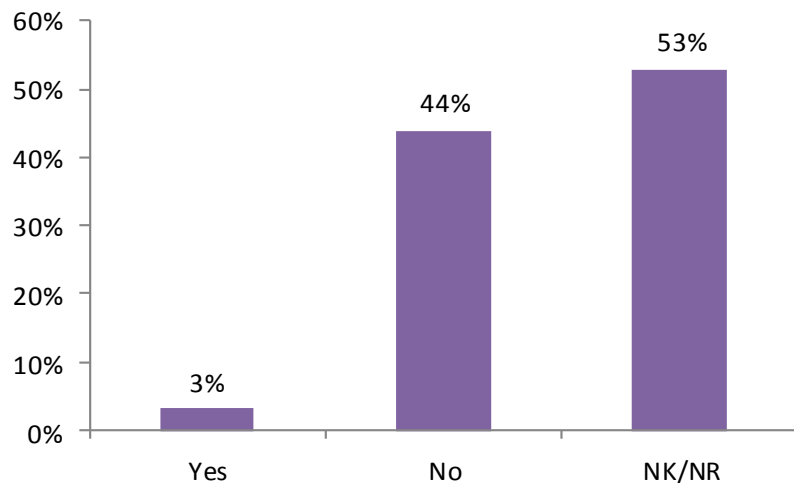
### Discharge Disposition– Final Hospital



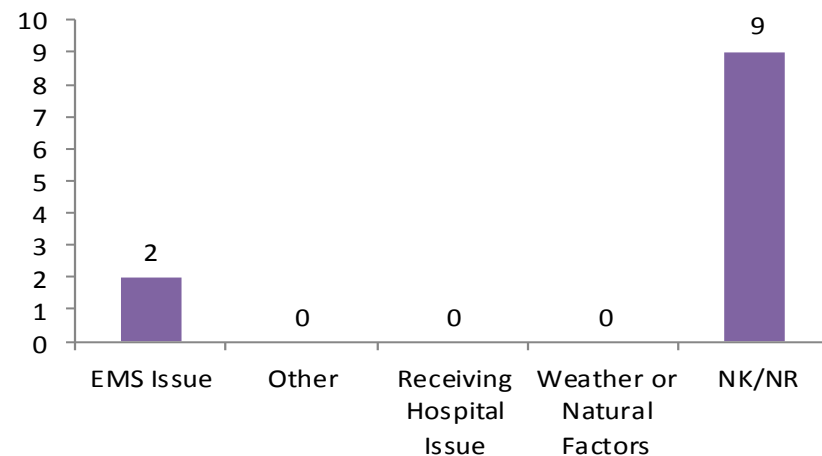
### Helicopter Transfers by ISS



### Transfer Delay Indicated- Initial Hospital



### Initial Facility Transfer Delay Reason- Initial Hospital



# Indiana Trauma Registry

## Statewide Quarter 4 Data Report

October 1, 2013 to December 31, 2013

5,839 Incidents

60 Total Hospitals Reporting

Trauma Centers:	9 facilities	54.3% of data
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### ED Length of Stay

ED Length of Stay (minutes)			
	Indiana Average	Trauma Center	Non-Trauma Center
N=	5331	3037	2294
Average	229.7	226.3	234.1
Std. Deviation	160.8	175.9	138.1
Minimum	0.0	1.0	0.0
Quartile 1	137.0	121.0	156.0
Median	204.0	190.0	215.0
Quartile 3	288.0	286.0	290.0
Maximum	2238.0	1910.0	2238.0

### ED Length of Stay by ISS

ED Length of Stay (minutes)						
ISS Category	Indiana Average	Indiana Average	Trauma Center	Trauma Center	Non-Trauma Center	Non-Trauma Center
	Counts	Minutes	Counts	Minutes	Counts	Minutes
1-8	2542	242.3	1368	242.4	1174	242.1
9-14	1945	231.2	1057	227.3	888	235.8
15-24	459	210.7	356	214.9	103	196.1
25-44	268	159.0	224	157.2	44	168.3
45-74	15	156.3	13	124.3	2	364.0
75	16	108.3	15	114.5	1	16.0
No ISS	85	183.3	4	143.8	81	185.2

### ED Disposition

ED Disposition (count)			
	Indiana	Trauma Center	Non-Trauma Center
Floor Bed	2581	1393	1188
ICU	1009	879	130
Transferred	826	90	736
OR	481	356	125
Home w/o Services	124	82	42
Observation	341	197	144
Step-Down	149	60	89
Expired	61	39	22
AMA	6	3	3
Home W/ Services	3	0	3
Other	14	0	14
NK/NR/NA	244	73	171

\*A bar graph of ED Disposition is found on page 4.

\*A bar graph of ED Length of Stay is found on page 4.

\*A Box and Whisker plot of ED LOS is found on page 5.

\*A Box and Whisker plot of ED Length of Stay by ISS is found on page 8.

# Indiana Trauma Registry

## Statewide Quarter 4 Data Report

October 1, 2013 to December 31, 2013

5,839 Incidents

60 Total Hospitals Reporting

Trauma Centers:	9 facilities	54.3% of data
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## ED Disposition (count) by ISS Category

	Floor Bed	ICU	Transferred	OR	Observation	NK/NR/NA	Step-Down	Home w/o Services	Expired	Other	AMA	Home w/ Services	Total
1-8	1286	274	439	221	252	71	76	116	19	12	5	2	2773
9-14	1142	334	270	149	76	114	62	8	7	0	1	1	2164
15-24	89	236	71	51	10	4	10	0	7	0	0	0	478
25-44	34	149	26	46	0	2	1	0	19	0	0	0	277
45-74	0	8	0	6	0	0	0	0	1	0	0	0	15
75	2	4	0	4	0	0	0	0	7	0	0	0	17
NO ISS	28	4	20	4	3	53	0	0	1	2	0	0	115
Total	2581	1009	826	481	341	244	149	124	61	14	6	3	5839

\*Bar graph of ED Disposition by ISS is found on page 9.



# Indiana State Department of Health Indiana Trauma Registry

Hospitals Reporting Trauma Data  
Quarter 4, 2013

## Trauma Centers

Deaconess Hospital  
Eskenazi Health  
IU Health - Methodist Hospital  
Lutheran Hospital of Indiana  
Memorial Hospital of South Bend  
Parkview Regional Medical Center  
Riley Hospital for Children at IU Health  
St. Mary's Medical Center of Evansville  
St. Vincent Indianapolis Hospital

## "In the Process" Hospital\*

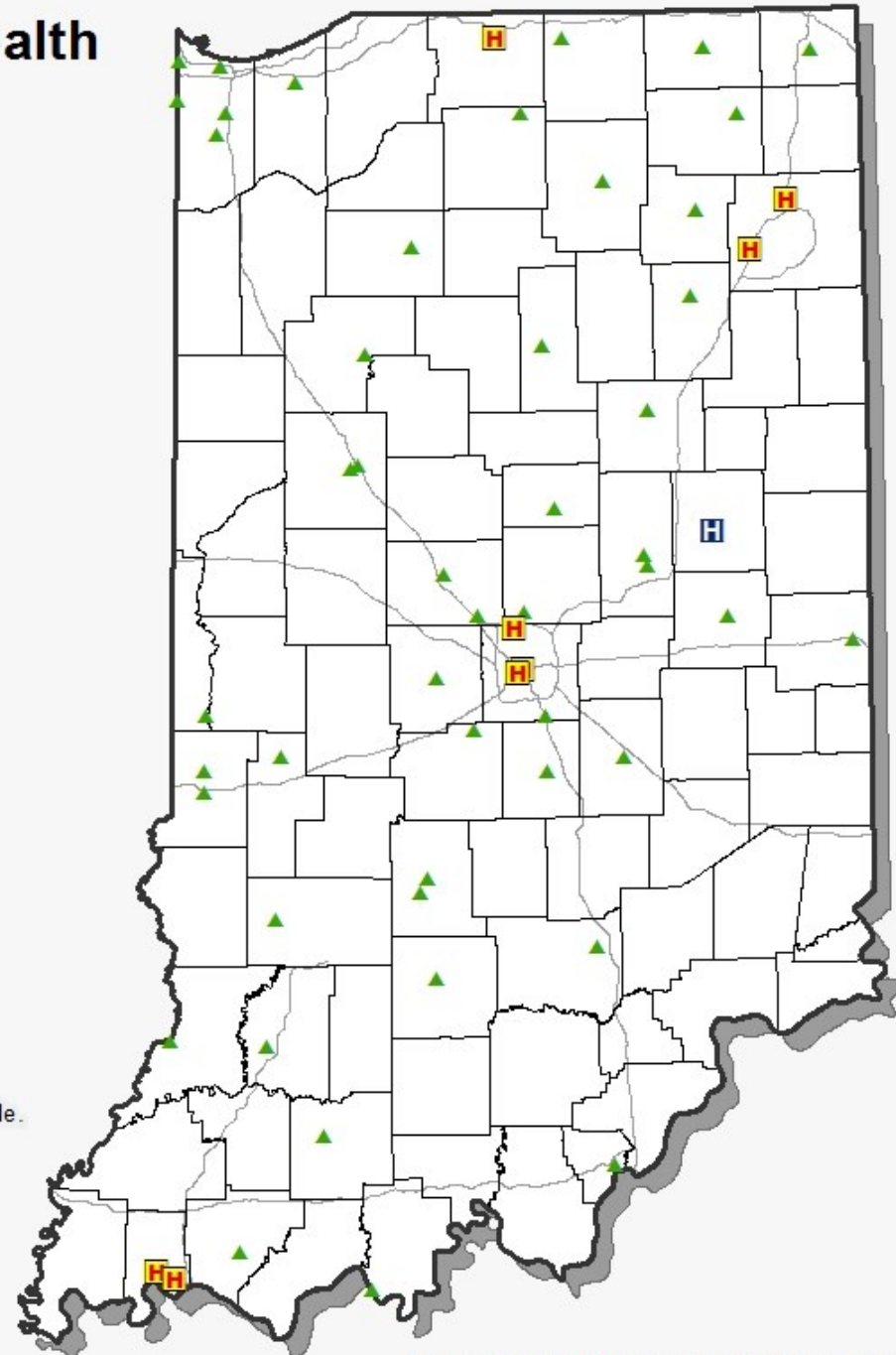
IU Health - Ball Memorial Hospital

## Non-Trauma Hospitals

50 Non-Trauma Hospitals

Quarter 4 2013:  
October 1- December 31, 2013

\* Considered a trauma center for purposes of the triage and transport rule.



Map Author: ISDH ERC PHG and ISDH Trauma & Injury Prevention - May, 2014



# Indiana Trauma Registry

## Statewide Quarter 4 Data Report October 1, 2013 to December 31, 2013 5,839 Incidents

### 60 Total Hospitals Reporting

Trauma Centers:	9 facilities	54.3% of data
(Non-Trauma) Hospitals:	51 facilities	45.7% of data

Requests and Changes to the Report from Trauma Care Committee members at the February, 2014 ISTCC Meeting:

#### General Report:

- We are continuing to track the number of cases that fell into the ED LOS >12 hours category, which is on page 4.
- Caterpillar graphs of ED LOS for Indiana average, trauma centers, and non-trauma centers were added. The purpose of these graphs is to compare different groups to the average ED LOS. The graphs can be found on pages 6 and 7.
- ED LOS (Minutes) by ISS graph now has trauma center and non-trauma center values, which is found on page 8.
- Mileage, signs of life data, and information about ISS and PS calculations was added to for patients with ED Disposition of Expired with a Ps  $\geq 50\%$  on page 11. The levels of care of the Trauma Center was not added due to patient privacy issues. We will add this information to the next report if there are no risks of identifying the patient. The hospitals with these patients were notified prior to the ISTCC meeting.
- Primary payer mix, hospital disposition, PS, and cause of injury data for incidents with hospital LOS longer than 15 days is on page 13.
- A map of all reporting hospitals is found on page 24. Note there was only one “in the process” facility during Quarter 4, 2013.

#### Transfer data:

- Critical patients have been split into two categories to include one group identified as “Critical Transfers” with ISS >15, OR GCS  $\leq 12$ , OR Shock Index > 0.9 at the initial hospital, and one group identified as “Physiological Critical Transfers” with a GCS  $\leq 12$  OR Shock Index > 0.9 at the initial hospital, which is found on page 16. This separation was requested to address the potential situation that patients appeared fine at the initial facility, but after a series of scans, their injury was identified as serious and needed to be transferred.
- A map of transfers was added on page 17. The thickness of the line indicates the frequency of transfers out of that public health preparedness district. The circles represent transfers from a specific Public Health Preparedness District, not of a specific hospital or county.
- We measured total mileage for transfers for the state, as well as for the north, central, and south mileage to trauma centers, which is found on page 18.
- To address the concern about how long it takes a patient to get from the initial hospital to the final hospital, we investigated the distance traveled and potential scene delays, which can be found on pages 18 and 21.
- At the time this report was created, there were four hospitals deemed “in the process” trauma centers for the purposes of the triage and transport rule. Because this report spans data from October 1-December 31, 2013, and IU-Health Ball Memorial was the only hospital with “in the process” status during the entire quarter, we cannot separate the “in the process” trauma center into its own column due to patient privacy. We were also unable to tease out “in the process” centers from hospitals on page 15 because of the same issue. Patients may be able to be identified due to isolation of one hospital’s data. We recognized the suggestion of the Trauma Care Committee and will reconsider the idea for the next report.

#### Example Bar and Whisker Plot:

-Bar and whisker plots were requested at the November, 2013 ISTCC meeting in order to show more than just an average ED LOS and ED LOS by ISS. The bar and whisker plots represent the four quartiles of data, as illustrated on the example graph to the right. The blue boxes each contain 25% of the values and the error bars each represent where 25% of the values fell. The median is represented in the middle of the two blue boxes with the white line. The red dot in the center indicates the average for that category. The cap on the error bars indicates the minimum and maximum of each category and all the values fall within the two caps.

-For the ED LOS bar and whisker plots to the right, the average is represented by the white dot and the color boxes reflect the hospital type. The ED LOS by ISS plots on the next page follow the same layout and the red dots indicate the average for each of the ISS categories.

